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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/939,804	08/28/2001	Kunihiko Terasa	213313US0X	2864

22850 7590 07/17/2003

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EXAMINER

UHLIR, NIKOLAS J

ART UNIT	PAPER NUMBER
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1773

DATE MAILED: 07/17/2003

13

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/939,804

Applicant(s)

TERASE ET AL.

Examiner

Nikolas J. Uhler

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 June 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 3,5,8 and 10-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) none is/are allowed.
- 6) ☒ Claim(s) 3,5,8 and 10-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

1. This office action is in response to the amendment/arguments dated 6/26/03. The examiner has carefully considered the applicants arguments but does not find them to be persuasive in overcoming the prior applied 35 U.S.C 103 rejections. The examiners reasoning is found below under the section entitled, "Response to Arguments." It is noted that currently, claims 3, 5, and 10-26 are pending.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 3, 5, 8, 10-15 and 21-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zdanowski et al. (US3900438) in view of Terasse et al. (US6077341).

4. For the purpose of this examination, the examiner has interpreted the limitation "A floor polishing film comprising a film-formable organic high molecular material provided on the surface of a substrate, which contains scaly particles," present in claim 11, as meaning that the floor polishing film contains scaly particles, not the substrate to which it is applied.

5. Claim 3 requires a floor polishing composition containing a film formable organic resin material as the main component, which further comprises at least scaly particles, wherein the scaly particles are silica corresponding to layered polysilicic acid, wherein the layered polysilicic acid is scaly silica particles having particle structures of layered

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structures present independently to each other, which comprises foliar silica secondary particles wherein a plurality of flaky primary particles of scaly silica are overlaid one on another and aligned face to face in parallel with one another, and wherein the foliar silica secondary particles are obtainable by disintegrating an aqueous slurry of layer-like polysilicic acid or layer-like polysilicic salt by means of a mechanical high speed stirring system employing a disintegrating medium.

6. With respect to the limitations of claim 3, Zdanowski et al. teaches a coating composition that produces a glossy bright coating with or without polishing on surfaces of wood, linoleum, metals, asphalt tile, and concrete, especially on floors (column 1, lines 7-11). This coating composition comprises 50-95 parts by weight of a copolymer (equivalent to applicants claimed film forming resin main component), 5-50 parts by weight of a wax, 0-30 parts by weight of an alkali soluble resin, a wetting or dispersing agent, and water (column 7, lines 1-10). Any monomer containing an amine group is suitable for use as the first monomer in the copolymer composition (column 2, lines 14-20). The second monomer in the copolymer is a hardening monomer such as styrene, vinyl chloride, acrylonitrile, or methyl methacrylate (column 4, lines 1-12). The coating composition is adapted to form clear glossy coatings, but may also contain pigments or fillers. These pigments and fillers include, silicates and metal oxides, such as titanium dioxide (column 5, lines 35-47). The amount of filler is between 2-100% by weight based on the weight of the binder resin (column 5, lines 49-55). Zdanowski et al. teaches that a coating of this composition on linoleum, vinyl, and asphalt floor tile

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surfaces exhibited rapid drying, and excellent gloss and wear resistance (column 8, lines 45-51).

7. Zdanowski et al. does not teach a floor polishing composition comprising a film-formable organic high molecular material and scaly particles of silica, wherein the particles correspond to layered polysilicic acid, more specifically foliar silica secondary particles wherein a plurality of flaky primary particles of scaly silica are overlaid one on another and aligned face to face in parallel, wherein the secondary particles are obtainable by disintegrating an aqueous slurry of layer-like polysilicic acid or layer-like polysilicic salt by means of a mechanical high speed stirring system employing a disintegrating medium.

8. However, with respect to these deficiencies, Terasse et al. teaches a silica metal oxide composite, wherein metal oxide particulates are supported on the surface of silica agglomerates composed of scaly silica (column 1, lines 6-13). The silica agglomerates form as a result of random stacking of scaly silica primary particles (column 4, lines 6-10). Terasse et al. defines scaly as being in the shape of a thin plate, which may be partially or entirely bent or curled. Terasse et al. teaches that scaly silica particles that agglomerate by stacking are known from academic research as silica-X or Silica-Y (column 4, lines 36-43). Terasse et al. teaches a method for making Silica-X, wherein a silica hydrogel is heated in an autoclave to carry out hydrothermal treatment, resulting in the formation of silica agglomerates in which scaly silica primary particles are randomly stacked (column 7, lines 38-42). In the hydrothermal treatment, an alkali metal salt such as a sodium, lithium or potassium silicate is permitted to coexist with the silica hydrogel,

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under basic (pH greater than 7) conditions. This mixture is heated at a temperature between 150-220°C for 5-50 hours (column 7, line 47-column 8, line 40). The silica agglomerates obtained are randomly stacked, and exhibit surface-surface (equivalent to applicants claimed face to face in parallel), surface-edge, and edge-edge stacking (column 10, lines 18-28). Given the fact that the particles of Terasse are scaly silica particles having that exhibit face to face in parallel alignment, and given the fact that the particles of Terasse are called Silica X and Silica Y, which is the same name given to the particles by the applicant on page 23, lines 10-25 of the instant specification, it is the position of the examiner that the silica particles of Terasse are equivalent to applicants claimed silica particles. Terasse teaches adding these particles to cosmetics, coatings, or resins. Suitable resins to which the silica-metal oxide composite may be added include urethane resins, vinyl chloride resins, and amino resins (column 14, line 1-3-6). When these particles are treated with a coupling agent and incorporated into a resin, Terasse et al. teaches that the strength of the resin is improved (column 14, lines 8-18).

9. Therefore it would have been obvious to one with ordinary skill in the art at the time the invention was made to add the coupling agent treated silica-metal oxide composite material taught by Terasse et al. to the floor polishing composition as taught by Zdanowski et al.

10. One would have been motivated to make this modification due to the teaching in Terasse et al. that coupling agent treated silica-metal oxide composite particulates increase the strength of resins to which they are added. Further, one would have been motivated to make this modification due to the teaching in Terasse et al. that the

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composite particulate may be added to resins such as vinyl-chloride and amino resins, and the teaching in Zdanowski et al. that the floor polishing composition comprises a copolymer of an amine group containing monomer and another monomer such as styrene or vinyl chloride.

11. Regarding the requirement in claim 3 requiring the secondary silica particles to be obtainable by disintegrating an aqueous slurry of layer-like polysilicic acid or layer-like polysilicic salt by means of a mechanical high speed stirring system employing a disintegrating medium. This limitation is a product by process limitation and does not appear to be further limiting in so far as the structure of the product is concerned. Even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. As the applicant has not established that the method of production results in a materially or structurally different product, the examiner maintains that the particles of Terasse are equivalent to the applicant's claimed scaly particles.

12. The limitations of claim 5 require the foliar secondary silica particles to exhibit the main X-ray diffraction peaks corresponding to silica X or silica Y. Although Terasse et al. does not specifically teach that the material obtained has the main peaks corresponding to silica-X and/or silica-Y, the examiner take the position that this limitation is inherently met, as the scaly silica material taught by Terasse is silica-X or silica-Y.

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13. The limitations of claims 8 and 10 require the organic resin material of the floor polishing composition to be an organic resin material in an aqueous emulsions state. Zdanowski specifically teaches that the resin utilized in the floor polish is preferably made by emulsion copolymerization, wherein an anionic or ionic dispersing agent is used to emulsify the monomers (column 4, lines 35-40). Thus, the limitations of claim 8 are met.

14. The limitations of claims 11-15 are met as set forth above for claims 3, 5, 8, and 10 above.

15. The limitations of claims 21-26 require a generic method for treating a floor with a floor polishing composition having the same compositional limitations as set forth above for claims 1, 3, 5, 8, and 10. These limitations are met as set forth above

16. Claims 16-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zdanowski et al. as modified by Terasse et al., further in view of Hackett et al. (US4363935).

17. Zdanowski et al. as modified by Terasse et al., does not teach coating the a floor polishing coating comprising an organic high molecular material and foliar silica particles that are stacked face to face in parallel with one another with an overcoating layer comprising an organic resin material as required by claims 16-19.

18. However, with respect to this deficiency, Hackett et al. teaches a treatment for polished and unpolished floor surfaces. The treatment comprises spray-buffing a specially formulated compound containing a crosslinking agent onto an in service film (column 1, lines 18-25). Typically, the in service film is a conventional polished finish

such as a polymeric finish or a floor wax. The specially formulated solution contains an ingredient that enables the composition to crosslink with the floor surface through oxygen group bridging. This results in a tough film that is crosslinked with the floor surface. (column 2, lines 10-40). The specially formulated solution consists of an aqueous emulsion of an acrylic, styrene acrylic, vinyl acetate acrylic polymer, a water soluble solvent, a non-ionic surfactant, a volatile amine, a humectant, a crosslinking agent such as methylated melamine or sodium benzoate, ammonia, water, and optionally an anionic or nonionic wax or polyolefin emulsion (column 45-68). Although Hackett et al. does not teach that the resilient layer is an organic high molecular compound, the aqueous polymer emulsion taught by Hackett et al. matches the materials specified by the applicant on page 9 of the specification as suitable organic high molecular compounds. Thus, this limitation is met. Hackett et al. teaches that floor surfaces coated with this composition exhibit improved detergent and water resistance, improved powdering resistance, improved heel mark resistance, and improved overall gloss (column 1, lines 44-50).

19. Therefore it would have been obvious to one with ordinary skill in the art at the time the invention was made to coat a floor polished with the composition taught by Zdanowski et al. as modified by Terasse et al. with the floor treatment composition taught by Hackett et al.

20. One would have been motivated to make this modification due to the teaching in Hackett et al. that polished floors treated with the floor treatment composition exhibit an

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increase in detergent resistance, water resistance, powdering resistance, heel mark resistance, and gloss.

Response to Arguments

21. The applicants amendments/arguments dated 6/26/03 have been fully considered but are not persuasive. Specifically, the applicants tendered the following argument:

- The rejection of claims 3, 5, 8, 10-15, and 20-26 under 35 U.S.C 103(a) as unpatentable over Zdanowski in view of Terasé is traversed. Zdanowski discloses no more than what applicants have acknowledged as prior art, and does not teach or suggest the use of scaly silica particles. Terasé is drawn to a composite comprising metal oxide particles and silica agglomerates having voids formed by random stacking of particles. Terasé discloses incorporating this composite as an ultraviolet ray shielding agent that may be incorporated into resins, cosmetics, or coating materials. With regard to the present claims, Terasé composite is not the same as, nor is it suggestive of, the applicants claimed silica particles comprising layered polysilicic acid. Nor does Terasé suggest a method of treating a floor with a composition containing these particles. Terasé neither discloses nor suggests that their particles are obtainable by disintegrating an aqueous slurry of layer-like polysilicic acid or layer-like polysilicic salt by means of a mechanical high speed stirring system employing a disintegrating medium, as now required by claim 3. Further, Terasé disclosure is not, without the present specification as a guide, suggestive of a method of treating a floor. Last, the examiner has not established that one of ordinary skill in the art would seek to impart UV shielding capabilities to the copolymer wax composition of Zdanowski.

22. This argument is not persuasive. With respect to the applicants arguments that the particles of Terasé are "not the same as, nor suggestive of" the applicants claimed silica particles comprising layered polysilicic acid. The examiner respectfully directs the applicant to page 17, lines 3-5 of the instant specification, wherein the applicant states "The layered polysilicic acid or its salt may, for example, be **silica-X, Silica-y, kenyanite**" etc... The applicant is now directed to Terasé, column 4, lines 36-43, wherein Terasé teaches that the layered silica particles are "known from academic research as Silica-X or Silica-Y." While the particles of Terasé are taught to contain additional materials such as TiO_2 or other fillers, the applicants claim language (i.e. comprising) is open to such additional materials being present in the composite. Thus,

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while the applicant certainly acknowledges that the particles of Terasse may not be identical to the applicants particles, the particles of Terasse most certainly read on the applicants claim language.

23. Regarding the applicants arguments that the Terasse does not disclose that the particles are obtainable by the method recited by the applicant in claim 3. While the examiner acknowledges that Terasse does not teach the applicants method, the examiner maintains that the particles of Terasse are equivalent to the instantly claimed particles, as the applicant has not established that particles made by the method recited in claim 3 are materially or structurally different from those of the prior art. Absent such a showing, the applicant's argument with respect to the method of manufacture is unpersuasive.

24. Regarding the applicants argument that neither Zdanowski nor Terasse teach or suggest the use of scaly particles in a floor polishing composition, and that the examiner has not established why one of ordinary skill in the art would want to impart the UV shielding characteristics of the particles of Terasse into the floor polish of Zdanowski. This argument is not persuasive. Terasse teaches that incorporating coupling agent treated silica-X or Silica Y material into urethane, vinyl chloride or amino resins, the strength of the resin is improved (column 14, lines 1-18 of Terasse). Zdanowski specifically teaches that suitable binder resins for its floor polishing composition include a copolymer of an amine and a vinyl chloride. Thus, given the fact that Terasse specifically teaches that adding coupling agent treated silica-X or Silica-Y type particles to the same types of resin (amino or vinyl chloride resins) as used in Zdanowski

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improves the strength of the resin, there is clear motivation to one of ordinary skill in the art to add the particles of Terasse into the coating composition of Zdanowski. The applicants argument with respect to imparting UV characteristics to the film are irrelevant as the examiner never made the argument that it would have been obvious to add the particles of Terasse to the composition of Zdanowski to impart UV shielding characteristics.

Conclusion

25. This application is an RCE of application #09/939804. All claims of this application are drawn to the same invention claimed in the earlier application and could have been finally rejected on the grounds and art of record in the next Office action if they had been entered in the earlier application. Accordingly, **THIS ACTION IS MADE FINAL** even though it is a first action in this case. See MPEP § 706.07(b). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no, however, event will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nikolas J. Uhler whose telephone number is 703-305-0179. The examiner can normally be reached on Mon-Fri 7:30 am - 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Thibodeau can be reached on 703-308-2367. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-0389.

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July 14, 2003


Paul Thibodeau
Supervisory Patent Examiner
Technology Center 1700